

WHAT IS CLAIMED:

1. An optical disk pickup system comprising:
a photodiode for converting photons reflected from an optical disk to a
current;
5 a transimpedance amplifier for converting the current from the photodiode
into a voltage signal; and
a transconductance amplifier for driving a conductive line with a current
generated from the voltage signal.
2. The optical disk pickup system of Claim 1 wherein the transimpedance
10 amplifier comprises an operational amplifier and a resistive feedback loop.
3. The optical disk pickup system of Claim 1 and further comprising a low
impedance load disposed in receiving circuitry coupled to the conductor for
reconverting the current driven on the conductor into a voltage.
4. The optical disk pickup system of Claim 1 and further comprising a
15 summer for summing the current from the transconductance amplifier with two or
more currents generated from the output of two or more photodiodes.
5. The optical disk pickup system of Claim 1 wherein the conductor
comprises one of a plurality of conductors of a flexible cable.
6. An optical disk pickup system comprising: N
20 a photodiode for converting a plurality of photons reflected from an optical
disk to a current; and

a current multiplier for increasing the current from the photodiode to drive a conductor.

5 7. The optical disk pickup system of Claim 6 and further comprising a low impedance load disposed in receiving circuitry coupled to the conductor for reconvert-
ing the current driven on the conductor into a voltage.

8. The optical disk pickup system of Claim 6 and further comprising a summer for summing the current from the transconductance amplifier with two or more currents generated from the output of two or more photodiode.

10 9. The optical disk pickup system of Claim 6 wherein the conductor comprises one of a plurality of conductors of a flexible cable.

15 10. The optical disk pickup system of Claim 6 wherein the current multiplier comprises a transimpedance amplifier for converting the current from the photodiode to a voltage and a transconductance amplifier for driving the conductor with a current generated from the voltage output of the transimpedance amplifier.

20 11. An optical disk system comprising:
an array of a plurality of photodiodes for converting photons reflected from an optical disk into a plurality of electrical signals each representing a channel;
circuitry for driving at least one of said electrical signals as a current across a conductor of a flexible cable; and
a low impedance load for converting the electrical signal driven across the conductor as a current into a voltage.

12. The optical disk system of Claim 11 wherein said circuitry for driving comprises a current multiplier.

13. The optical disk system of Claim 11 wherein said circuitry for driving comprises a transimpedance amplifier for converting a current produced by a
5 corresponding photodiode into a voltage and a transconductance amplifier for driving the conductor with a current from the voltage output from the transimpedance amplifier.

14. The optical disk system of Claim 11 wherein said circuitry for driving and said photodiodes are disposed on a movable sled and said low impedance load
10 is disposed on a fixed circuit board.

15. The optical disk system of Claim 11 wherein said channels comprise servo control channels.

16. The optical disk system of Claim 11 wherein said channels comprise data channels.

15 17. The optical disk system of Claim 11 and further comprising circuitry for summing a plurality of said electrical signals as currents for transmission as a single current signal across said conductor.

18. A method of transmitting signals from an optical pickup to processing circuitry via a flexible cable comprising the steps of:
20 converting photons reflected from an optical disk into an electrical signal;
driving the electrical signal as a current across a conductor of the flexible cable; and

converting the electrical signal driven across the conductor as a current into a voltage using a low impedance load.

19. The method of transmitting of Claim 18 comprises the step of multiplying a current output from said photodiode.

5 20. The method of Claim 18 wherein said step of driving comprises the substeps of:

converting a current produced by a corresponding photodiode into a voltage using a transimpedance amplifier; and

10 driving the conductor with a current generated by a transconductance amplifier from the voltage produced by the transimpedance amplifier.